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भारतीय मानक
सड़क वाहन — पांचवाँ पहिया — अंतर्विनिमयता
(पहला पुनरीक्षण)

Indian Standard
ROAD VEHICLES — FIFTH WHEELS —
INTERCHANGEABILITY
(*First Revision*)

ICS 43.040.70

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BUREAU OF INDIAN STANDARDS
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NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 3842 : 2001 'Road vehicles — Fifth wheels — Interchangeability' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendations of the Transport Tractors, Trailers and Industrial Trucks Sectional Committee had been approved by the Transport Engineering Division Council.

This standard was first published in 1983 which was based on ISO 3842 : 1976 'Road vehicles — Fifth wheel mounting'. Subsequent to the revision in the ISO 3842 : 2001, this standard has been revised to bring it in line with the revised ISO Standard.

The text of ISO Standard has been approved for publication as an Indian Standard without deviations. Certain terminology and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

CROSS REFERENCES

In this adopted standard references appear to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their place are given below along with their degree of equivalence for the editions indicated. However, that International Standard cross referred in this adopted ISO Standard, which has subsequently been revised, position in respect of latest ISO Standard has been given.

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 337 : 1981 Road vehicles — 50 Semi-trailer fifth wheel coupling pin — basic and mounting/ interchangeability dimensions	IS 6763 (Part 1) : 1987 Specification and testing for fifth wheel king pin for semi-trailers: Part 1 Size 50	Equivalent
ISO 1726 : 2000 Road vehicles — Mechanical coupling between tractors and semi-trailers — Interchangeability	IS 8007 : 1976 Dimensions of fifth wheel coupling between transport tractors and semi/articulated trailers for interchangeability	do
ISO 4086 : 2001 Road vehicles — 90 Semi-trailer fifth wheel kingpins — Interchangeability	IS 6763 (Part 2) : 1987 Specification and testing for fifth wheel king pin for semi-trailers: Part 2 Size 90	do
ISO 8717 : 2000 Commercial road vehicles — Fifth wheel couplings — Strength tests	IS 15101 : 2002 Transport tractors and trailers fifth wheel coupling — Strength tests	do

For BIS certification marking, details are available with the Bureau of Indian Standards.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

**ROAD VEHICLES — FIFTH WHEELS —
INTERCHANGEABILITY**

(First Revision)

1 Scope

This International Standard specifies the dimensional characteristics necessary for the mounting and interchangeability of the fifth wheel on the frame (subframe or mounting plate) of towing vehicles for semi-trailers. It is applicable to fifth wheels intended for hitching on semi-trailers equipped with a

- 50 kingpin as defined in ISO 337, or
- 90 kingpin as defined in ISO 4086.

Dimensions not specified are left to the discretion of the component manufacturer.

NOTE Those test conditions and strength requirements to be met by 50 and 90 fifth wheel couplings are specified in ISO 8717.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 337, *Road vehicles — 50 semi-trailer fifth wheel coupling pin — Basic and mounting/interchangeability dimensions*.

ISO 1726, *Road vehicles — Mechanical coupling between tractors and semi-trailers — Interchangeability*.

ISO 4086:—¹⁾, *Road vehicles — 90 semi-trailer fifth wheel kingpins — Basic and mounting/interchangeability dimensions*.

ISO 8717, *Commercial road vehicles — Fifth wheel couplings — Strength tests*.

3 General requirements

3.1 Fixing holes

3.1.1 Frame

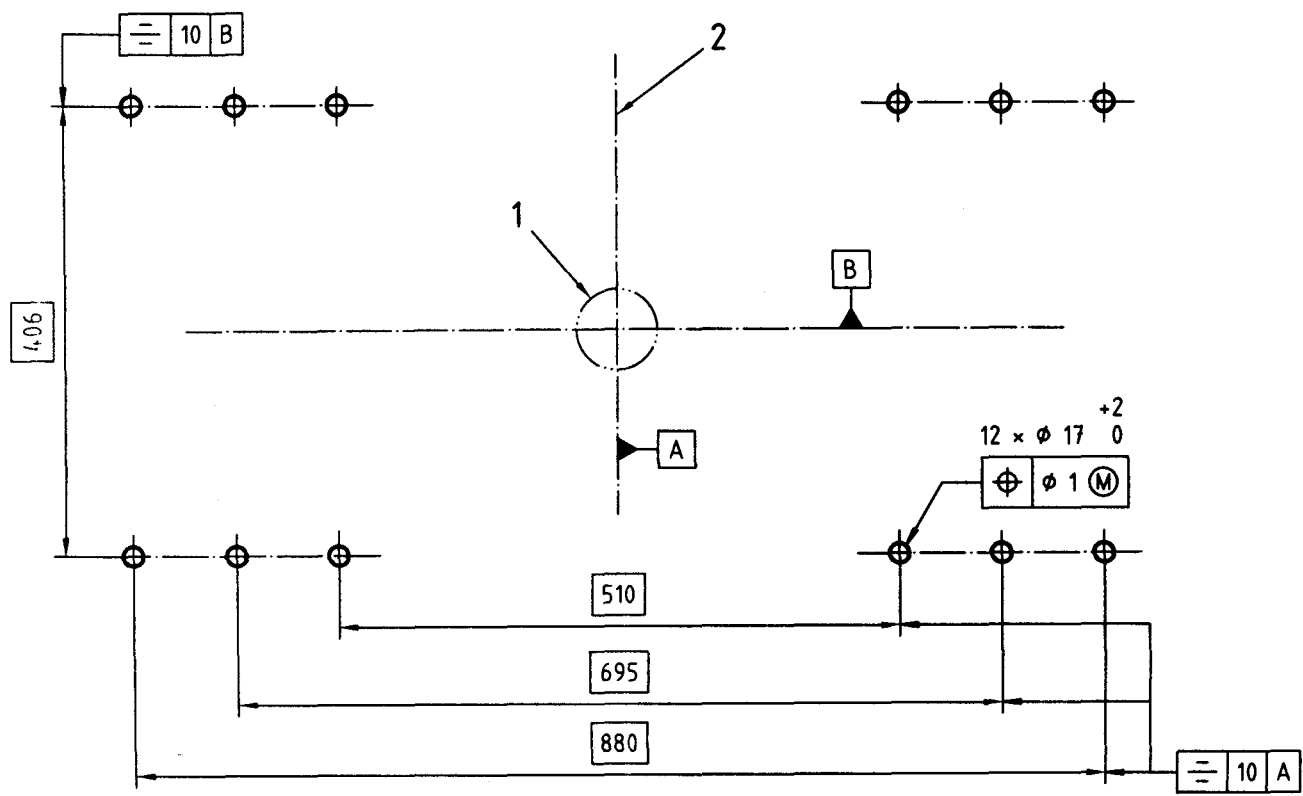
The position of the fixing holes on the frame shall be as shown in Figure 1.

3.1.2 Fifth wheel coupling

The position of the fixing holes on the fifth wheel coupling shall be as shown in Figure 2.

¹⁾ To be published. (Revision of ISO 4086:1982)

Dimensions in millimetres



- Key**
- 1 Kingpin (in accordance with ISO 337 or ISO 4086)
 - 2 Longitudinal axis of towing vehicle

Figure 1 — Dimensions and location of fixing holes on frame

3.2 Mounting

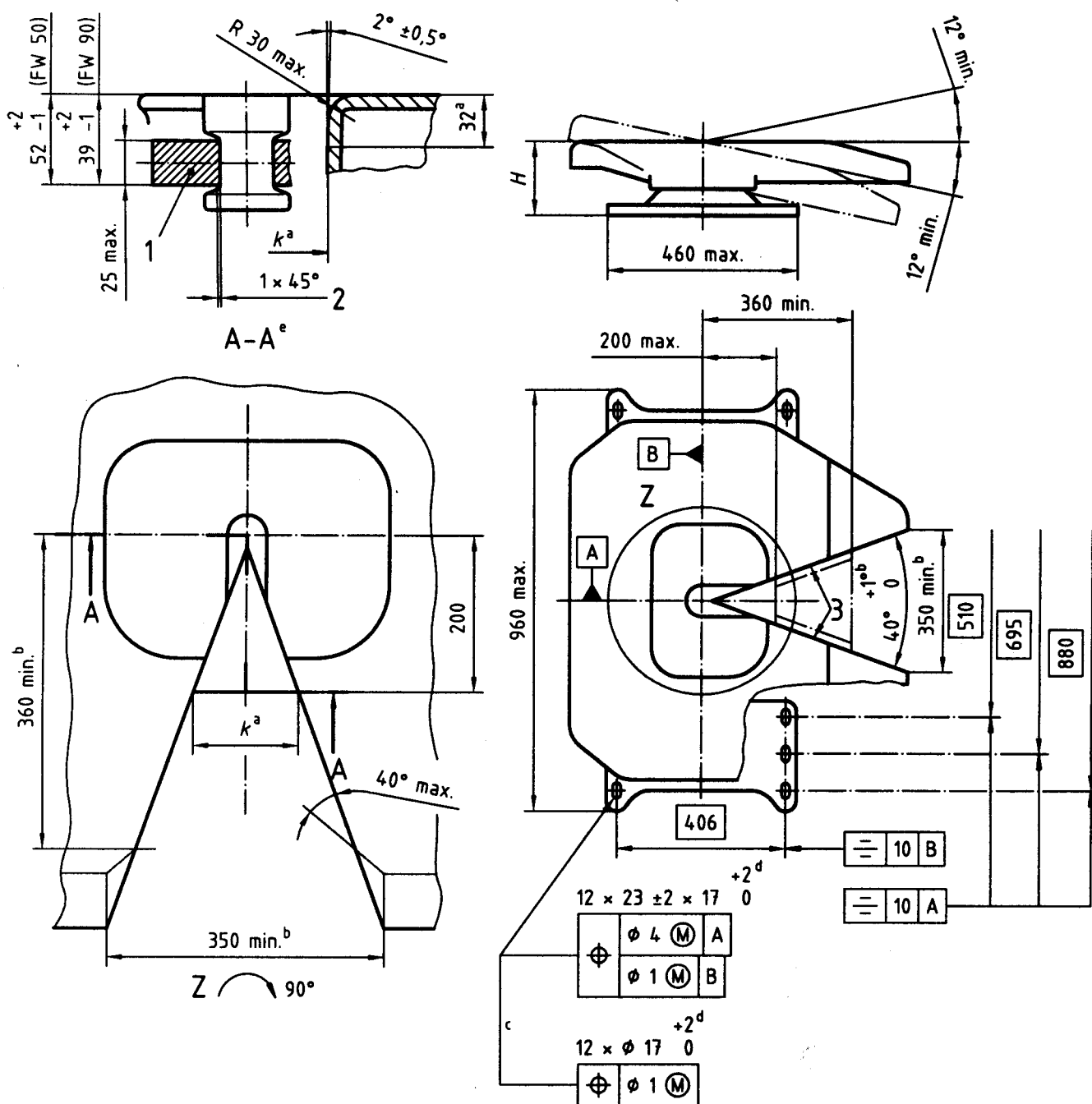
The mounting for 50 mm fifth wheels (FW 50) shall be a minimum of eight bolts, size M16, minimum property class 8.8, placed symmetrically with respect to the longitudinal and transverse axes of the fifth wheel; 90 mm fifth wheels (FW 90) shall be bolted with 12 bolts, size M16, minimum property class 8.8.

3.3 Inclination angles

The longitudinal inclination of the fifth wheel not installed on the vehicle, but with bolts or nuts at the mounting brackets considered, shall be $\pm 12^\circ$ min., as shown in Figure 2.

A lateral angle of $\pm 3^\circ$ max. may be used (see ISO 1726) for fifth wheels conforming to this International Standard.

Dimensions in millimetres



Key

- 1 Locking jaw
- 2 Chamfer on jaw
- 3 Bearing surface for steering wedge

^a To provide for the use of steering wedges, measure the reference dimension $k = (137 \pm 3)$ mm, 32 mm below the top face at a distance of 200 mm.

^b The angle $(40^{+1}_0)^\circ$ shall be realized for the length of at least 360 mm. The entry width 350 mm min. may alternatively be executed according to the dotted contour.

^c Instead of elongated holes of (23 ± 2) mm \times (17^{+2}_0) mm holes with $\varnothing(17^{+2}_0)$ mm are also allowed.

^d When using elongated holes or holes of $> \varnothing 18$ mm, washers $\varnothing 40$ mm \times 6 mm thick or means of equal strength (e.g. flat steel plate) shall be used.

^e Enlarged part with kingpin.

Figure 2 — Dimensions of fifth wheels

3.4 Height

The height, H , of the fifth wheel coupling shall be within one of the classes specified in Table 1.

Table 1 — Classes of fifth wheel height

Dimensions in millimetres						
Fifth wheel	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
Range H	140 to 159	160 to 179	180 to 199	200 to 219	220 to 239	240 to 260

3.5 Dimensions of standard fifth wheels

Standard fifth wheels shall have the dimensions given in Figure 2.

4 Designation

Fifth wheels meeting the requirements of this International Standard shall be identified by the following, in the order specified:

- a) reference to this this International Standard;
- b) code FW 50 for 50 mm fifth wheels and FW 90 for 90 mm fifth wheels;
- c) number of class of fifth wheel height, H , according to Table 1.

EXAMPLE 1 50 mm fifth wheel coupling having a height within the range of class 1:

Fifth wheel ISO 3842 FW 50-1

EXAMPLE 2 90 mm fifth wheel coupling having a height within the range of class 4:

Fifth wheel ISO 3842 FW 90-4

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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